

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/606,532-609,532
Attorney Docket No. Q59989

7. (currently amended): A demodulator for a mobile phone in accordance with claim
[[1]] 3, further comprising:

weighting circuits operable to attenuate feedback amounts to avoid a divergence of
operated results in case that said feedback amounts are large when said adders input said
weighted differences by [[said]] a feedback circuit.

8. (currently amended): A demodulator for a mobile phone in accordance with claim 3,
further comprising:

logic circuits operable to perform bit expansion at input terminals of said adders and also
perform bit expansion for values to be applied via feedback and decrease round-off error by
omitting designated subordinate bits after all operation is finished and returning [[the]] a number
of bits to an original number.

9. (currently amended): A demodulating method for a mobile phone comprising:
applying weighting to differences of symbols before and after a current symbol to be
demodulated and ~~applying~~ providing the weighted differences as feedback;

applying weighting to one or more correction values, wherein the correction values are
calculated by an external loop inputted with phase difference data of the current symbol after
detection of the current symbol ~~is detected~~; and

deciding an order of priority for the one or more correction values,

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wherein various radio wave environments and different kinds of noise are accommodated. ✓

by said applying weighting to the one or more correction values and said deciding the order of priority for the one or more correction values.

10. (previously presented): A demodulating method for a mobile phone in accordance with claim 9, further comprising:

delaying and adding signals to obtain a detected phase difference at said current symbol to be demodulated.

11. (previously presented): A demodulating method for a mobile phone in accordance with claim 9, further comprising:

delaying and adding signals to obtain a detected phase difference before and after said current symbol to be demodulated.

12. (previously presented): A demodulating method for a mobile phone in accordance with claim 10, further comprising:

obtaining a received quality as a difference between each respective phase difference between symbols obtained during said delaying and adding and an ideal value.

13. (previously presented): A demodulating method for a mobile phone in accordance with claim 12, wherein ~~said adding signals process inputs~~ ^{*delaying and*} ~~said received quality during the current~~ ^{*adding signals*} symbol to be demodulated by using feedback.

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14. (previously presented): A demodulating method for a mobile phone in accordance with claim 11, further comprising:
demodulating using results from said ^{delaying and} adding process, in case that said detected phase difference at said current symbol to be demodulated includes a difference generated by not detecting phase correctly.

15. (currently amended): A demodulating method for a mobile phone in accordance with claim [[9]] 11, further comprising:
attenuating feedback amounts to avoid a divergence of operated results in case that said feedback amounts are large when said ^{delaying and} adding process inputs said weighted difference by said feedback.

16. (currently amended): A demodulating method for a mobile phone in accordance with claim 11, further comprising:
performing bit expansion on inputs of said ^{delaying and} adding process and also performing bit expansion on values to be applied as feedback and decreasing round off error by omitting designated subordinate bits after all operations are finished and returning [[the]] a number of bits to an original number.

17. (currently amended): A demodulator for demodulating digital symbol data comprising: